



The Math/Stats Colloquium  
Department of Mathematics and Statistics  
San José State University



# Giang Le

## SJSU

### *One-relator relative presentations and Klyachko's method*

APRIL 10, 2019, MH320

**Abstract:** In group theory, we can define a new group  $\tilde{G}$  from a group  $G$  by adding to  $G$  new generators and new relators. Some natural questions we can ask is that if  $G$  is embedded in  $\tilde{G}$  and what properties  $\tilde{G}$  can have? In general, the new group can be arbitrary if we do not impose some conditions on the generators and/or relators. In this talk, we discuss the case when the group  $\tilde{G}$  is formed from  $G$  by adding one more generator and one relator. We introduce the Kervaire-Lauderbach conjecture regarding the embeddedness of  $G$  into  $\tilde{G}$  and Klyachko's method to prove the conjecture for a large class of groups. We use Klyachko's method to prove some properties of the group  $\tilde{G}$ . In particular, we prove that the group  $\tilde{G}$  is relatively hyperbolic relative to the group  $G$ .

*Background:* One course in abstract algebra.

**About the speaker:** Giang Le received her Ph.D from Ohio State University in 2016 and is a lecturer at SJSU. Her current research is in geometric group theory. She is interested in hyperbolic and relatively hyperbolic groups and Artin groups.

SNACKS IN MH331B AT 2:30 PM

TALK STARTS AT 3:00 PM

For more information, see our full schedule at:

<http://www.timhsu.net/colloq/>